Author Index

Alexander, I. J. (see Downes, G. M.), 141
——, (see Cairney, J. W. G.), 153, 159
Anderson-Taylor, G. (see Marshall, C.), 339
Apostolakos, P. & Galatis, B., Patterns of microtubule organization in two polyhedral cell types in the gametophyte of the liverwort *Marchantia paleacea* Bert., 165
Atherton, N. M. (see Hendry, G. A. F.), 273
Barnes, J. D. (see Borland, A. M.), 349
Bazzaz, F. A. (see Crabtree, R. C.), 617
Bel-Rhlid, R. (see Chabot, S.), 461
Bergman, B., Johansson, C. & Söderbäck, E., Tansley Review No. 42. The *Nostoc–Gunnera* symbiosis, 379
Beyers, J. L., Riechers, G. H. & Temple, P. J., Effects of long-term ozone exposure and drought on the photosynthetic capacity of ponderosa pine (*Pinus ponderosa* Laws.), 81
Birch, C. P. D. & Hutchings, M. J., Stolon growth and branching in *Glechoma hederacea* L.: an application of a plastochron index, 545
Boddy, L. (see Newsham, K. K.), 97, 111, 127
Boogaard, R. van den (see Hoffland, E.), 675
Borland, A. M., Griffiths, H., Maxwell, C., Broadmeadow, M. S. J., Griffiths, N. M. & Barnes, J. D., On the ecophysiology of the Clusiaceae in Trinidad: expression of CAM in *Clusia minor* L. during the transition from wet to dry season and characterization of three endemic species, 349
Botteschi, G. (see Schenone, G.), 689
Broadmeadow, M. S. J. (see Borland, A. M.), 349
Brown, R. G. (see Evans, E. H.), 501
Buckland, S. M. (see Hendry, G. A. F.), 273
Buttery, B. R. (see Hansen, A. P.), 611
Byers, D. P., Johnson, J. D. & Dean, T. J., Seasonal response of slash pine (*Pinus elliottii* var. *elliottii* Engelm.) photosynthesis to long-term exposure to ozone and acidic precipitation, 91
Cairney, J. W. G. (see Downes, G. M.), 141
——, Alexander, I. J., A study of ageing of spruce [*Picea sitchensis* (Bong.) Carr.] ectomycorrhizas. II. Carbohydrate allocation in ageing *Picea sitchensis*/*Tylospora fibrillosa* (Burt.) Donk ectomycorrhizas, 153
——, Alexander, I. J., A study of ageing of spruce [*Picea sitchensis* (Bong.) Carr.] ectomycorrhizas. III. Phosphate absorption and transfer in ageing *Picea sitchensis*/*Tylospora fibrillosa* (Burt.) Donk ectomycorrhizas, 159
Cairns, A. J., Fructan biosynthesis in excised leaves of *Lolium temulentum* L. V. Enzymatic *de novo* synthesis of large fructans from sucrose, 253
Callaghan, T. V. (see Jonasson, S.), 179
Chabot, S., Bel-Rhlid, R., Chênevert, R. & Piché, Y., Hyphal growth promotion *in vitro* of the VA mycorrhizal fungus, *Gigaspora margarita* Becker & Hall, by the activity of structurally specific flavonoid compounds under CO_2-enriched conditions, 461
Chapman, D. F. & Robson, M. J., The physiological role of old stolon material in white clover (*Trifolium repens* L.), 53
Chênevert, R. (see Chabot, S.), 461
Chudek, J. A. (see Goodman, B. A.), 529
Colls, J. J. (see Sanders, G. E.), 63
Crabtree, R. C. & Bazzaz, F. A., Seedlings of black birch (*Betula Lenta* L.) as foragers for nitrogen, 617
Cresser, M. (see Woodin, S.), 635
Cui, M. & Nobel, P. S., Nutrient status, water uptake and gas exchange for three desert succulents infected with mycorrhizal fungi, 643
Cunningham, A. (see Davidson, K.), 433
Dalton, S. J. (see Ougham, H. J.), 261
Davidson, K., Flynn, K. J. & Cunningham, A., Non-steady state ammonium-limited growth of the marine phytoflagellate, *Isochrysis galbana* Parke, 433
Davison, A. W. (see Reiling, K.), 699
Davy, A. J. (see Noble, S. M.), 553
Dean, T. J. (see Byers, D. P.), 91
De Knecht, J. A., Koevoets, P. L. M., Verkleij, J. A. C. & Ernst, W. H. O., Evidence against a role for phytochelatins in naturally selected increased cadmium tolerance in *Silene vulgaris* (Moench) Garcke, 681
Denyer, K. (see Smith, A. M.), 21
Dickson, S. (see Smith, S. E.), 469
Downes, G. M., Alexander, I. J. & Cairney, J. W. G., A study of ageing of spruce [*Picea sitchensis* (Bong.) Carr.] ectomycorrhizas. I. Morphological and cellular changes in mycorrhizas formed by *Tylospora fibrillosa* (Burt.) Donk and *Paxillus involutus* (Batsch. ex Fr.) Fr., 141
Downum, K. R., Tansley Review No. 43. Light-activated plant defence, 401
Dueck, Th. A. & Elderson, J., Influence of NH_3 and SO_2 on the growth and competitive ability of *Arnica montana* L. and *Viola canina* L., 507
Dunwiddie, P. W. (see Jackson, S. T.), 187
Eckardt, N. A. (see Enyedi, A. J.), 493
Elderson, J. (see Dueck, Th. A.), 507
Enyedi, A. J., Eckardt, N. A. & Pell, E. J., Activity of ribulose bisphosphate carboxylase/oxygenase from potato cultivars with differential response to ozone stress, 493
Ernst, W. H. O. (see De Knecht, J. A.), 681
Evans, E. H., Brown, R. G. & Wellburn, A. R., Chlorophyll fluorescence decay profiles of O_2-exposed spruce needles as measured by time-correlated single photon counting, 501
Fautrier, A. G. (see Ostash, M.), 709
Field, R. J. (see Ostash, M.), 709
Finch-Savage, W. E. (see Hendry, G. A. F.), 273
Findenegg, G. (see Hoffland, E.), 675
Fisher, P. J., Petrini, O. & Lappin Scott, H. M., The distribution of some fungal and bacterial endophytes in maize (*Zea mays* L.), 299
Flynn, K. J. (see Davidson, K.), 433
Francis, D., Tansley Review No. 38. The cell cycle in plant development, 1
Frankland, J. C. (see Newsham, K. K.), 97, 111, 127
Frey, B. & Schüepp, H., Transfer of symbiotically fixed nitrogen from berseem (*Trifolium alexandrinum* L.) to maize via vesicular–arbuscular mycorrhizal hyphae, 447
Fuhrer, J. (see Grandjean Grimm, A.), 321
Fumagalli, I. (see Schenone, G.), 689
Fußeder, A., Wartinger, A., Hartung, W., Schulze, E.-D. & Heilmeier, H., Cytokinins in the xylem sap of desert-grown almond (*Prunus dulcis*) trees: daily courses and their possible interactions with abscisic acid and leaf conductance, 45
Galatis, B. (see Apostolakos, P.), 165
Gallon, J. R., Tansley Review No. 44. Reconciling the incompatible: N_2 fixation and O_2, 571
Garten, C. T. Jr. (see Hanson, P. J.), 329
Geissler, P. A. (see Sanders, G. E.), 63
Gonzalez, J. M. (see Jaffe, K.), 733
Goodman, B. A., Williamson, B. & Chudek, J. A., Nuclear magnetic resonance (NMR) micro-imaging of raspberry fruit: further studies on the origin of the image, 529
Gordon, A. J., Thomas, B. J. & Reynolds, P. H. S., Localization of sucrose synthase in soybean root nodules, 35
Graham, B. (see Woodin, S.), 635
Grandjean Grimm, A. & Fuhrer, J., The response of spring wheat (*Triticum aestivum* L.) to ozone at higher elevations. III. Responses of leaf and canopy gas exchange, and chlorophyll fluorescence to ozone flux, 321
Green, T. H. & Mitchell, R. J., Effects of nitrogen on the response of loblolly pine to water stress. I. Photosynthesis and stomatal conductance, 627
Gries, C. (see Sanz, M. J.), 313
Griffiths, H. (see Borland, A. M.), 349
Griffiths, N. M. (see Borland, A. M.), 349
Gryndler, M., Vejsadová, H. & Vančura, V., The effect of magnesium ions on the vesicular–arbuscular mycorrhizal infection of maize roots, 455
Hansen, A. P., Martin, P., Buttery, B. R. & Park, S. J., Nitrate inhibition of N_2 fixation in *Phaseolus vulgaris* L. cv. OAC Rico and a supernodulating mutant, 611
Hanson, P. J. & Garten, C. T. Jr., Deposition of $H^{15}NO_3$ vapour to white oak, red maple and loblolly pine foliage: experimental observations and a generalized model, 329
Harrison, D. L. S. (see Owens, J. N.), 515

HARTUNG, W. (see FUßEDER, A.), 45
HAYWARD, M. D. (see OUGHAM, H. J.), 261
HEILMEIER, H. (see FUßEDER, A.), 45
HENDRY, G. A. F., FINCH-SAVAGE, W. E., THORPE, P. C., ATHERTON, N. M., BUCKLAND, S. M., NILSSON, K. A. & SEEL, W. E., Free radical processes and loss of seed viability during desiccation in the recalcitrant species *Quercus robur* L., 273
HENRION, B., LE TACON, F. & MARTIN, F., Rapid identification of genetic variation of ectomycorrhizal fungi by amplification of ribosomal RNA genes, 289
HIRSCH, A. M., Tansley Review No. 40. Developmental biology of legume nodulation, 211
HOFFLAND, E., BOOGAARD, R. VAN DEN, NELEMANS, J. & FINDENEGG, G., Biosynthesis and root exudation of citric and malic acids in phosphate-starved rape plants, 675
HUTCHINGS, M. J. (see BIRCH, C. P. D.), 545
INESON, P. (see NEWSHAM, K. K.), 97, 111, 127
JACKSON, S. T. & DUNWIDDIE, P. W., Pollen dispersal and representation on an offshore island, 187
JACKSON, W. A. & VOLK, R. J., Nitrate and ammonium uptake by maize: adaptation during relief from nitrogen suppression, 439
JAFFE, K., MICHELANGELI, F., GONZALEZ, J. M., MIRAS, B. & RUIZ, M. C., Carnivory in pitcher plants of the genus *Heliamphora* (Sarraceniaceae), 733
JAKOBSEN, I. (see JOHANSEN, A.), 281
JAMES, E. K. (see NAISBITT, T.), 487
JENSEN, E. S. (see JOHANSEN, A.), 281
JENSEN, K. F. (see PERCY, K. E.), 71
JOHANSEN, A., JAKOBSEN, I. & JENSEN, E. S., Hyphal transport of ^{15}N-labelled nitrogen by a vesicular–arbuscular mycorrhizal fungus and its effect on depletion of inorganic soil N, 281
JOHANSSON, C. (see BERGMAN, B.), 379
JOHNSON, J. D. (see BYERS, D. P.), 91
JONASSON, S. & CALLAGHAN, T. V., Root mechanical properties related to disturbed and stressed habitats in the Arctic, 179
JOYCE, E. B. (see LADD, P. G.), 757
KILLICK, A. (see WOODIN, S.), 635
KOEVOETS, P. L. M. (see DE KNECHT, J. A.), 681
LADD, P. G., ORCHISTON, D. W. & JOYCE, E. B., Holocene vegetation history of Flinders Island, 757
LAPINJOKI, S. P. (see RAATIKAINEN, O. J.), 537
LAPPIN SCOTT, H. M. (see FISHER, P. J.), 299
LE TACON, F. (see HENRION, B.), 289
LEHTO, T., Mycorrhizas and drought resistance of *Picea sitchensis* (Bong.) Carr. I. In conditions of nutrient deficiency, 661
——, Mycorrhizas and drought resistance of *Picea sitchensis* (Bong.) Carr. II. In conditions of adequate nutrition, 669
MARSHALL, C. & ANDERSON-TAYLOR, G., Mineral nutritional inter-relations amongst stolons and tiller ramets in *Agrostis stolonifera* L., 339
MARTIN, F. (see HENRION, B.), 289
MARTIN, P. (see HANSEN, A. P.), 611
MAXWELL, C. (see BORLAND, A. M.), 349
MCQUATTIE, C. J. (see PERCY, K. E.), 71
MICHELANGELI, F. (see JAFFE, K.), 733
MIRAS, B. (see JAFFE, K.), 733
MITCHELL, R. J. (see GREEN, T. H.), 627
MONTINARO, F. (see SCHENONE, G.), 689
MUTINDA, C. (see OUGHAM, H. J.), 261
NAISBITT, T., JAMES, E. K. & SPRENT, J. I., The evolutionary significance of the legume genus *Chamaecrista*, as determined by nodule structure, 487
NASH, III, T. H. (see SANZ, M. J.), 313
NELEMANS, J. (see HOFFLAND, E.), 675
NEWSHAM, K. K., FRANKLAND, J. C., BODDY, L. & INESON, P., Effects of dry-deposited sulphur dioxide on fungal decomposition of angiosperm tree leaf litter I. Changes in communities of fungal saprotrophs, 97
——, INESON, P., BODDY, L., FRANKLAND, J. C., Effects of dry-deposited sulphur dioxide on fungal decomposition of angiosperm tree leaf litter II. Chemical content of leaf litters, 111
——, BODDY, L., FRANKLAND, J. C., INESON, P., Effects of dry-deposited sulphur dioxide on fungal decomposition of angiosperm tree leaf litter III. Decomposition rates and fungal respiration, 127
NILSSON, K. A. (see HENDRY, G. A. F.), 273
NOBEL, P. S. (see CUI, M.), 643
NOBLE, S. M., DAVY, A. J. & OLIVER, R. P., Ribosomal DNA variation and population differentiation in *Salicornia* L., 553
O'DELL, T. E. & TRAPPE, J. M., Root endophytes of lupin and some other legumes in Northwestern USA, 479
O'KEEFE, D. M. & SYLVIA, D. M., Chronology and mechanisms of P uptake by mycorrhizal sweet potato plants, 651
OLIVER, R. P. (see NOBLE, S. M.), 553
ORCHISTON, D. W. (see LADD, P. G.), 757
OSTASH, M., FAUTRIER, A. G. & FIELD, R. J., An *in vitro* assay for incompatibility between *Triticum aestivum* L. and *Secale cereale* L., 709
OUGHAM, H. J., THOMAS, A. M., THOMAS, B. J., ROBERTS, P. C., MUTINDA, C., HAYWARD, M. D. & DALTON, S. J., Leaf development in *Lolium temulentum* L.: characterization of a *slow-to-green* mutant, 261
OWENS, J. N., PHILIPSON, J. J. & HARRISON, D. L. S., The effects of the duration and timing of drought plus heat plus gibberellin $A_{4/7}$ on apical meristem development and coning in Sitka spruce [*Picea sitchensis* (Bong.) Carr], 515
PARK, S. J. (see HANSEN, A. P.), 611
PELL, E. J. (see ENYEDI, A. J.), 493
PELTTARI, A. (see RAATIKAINEN, O. J.), 537
PERCY, K. E., JENSEN, K. F. & MCQUATTIE, C. J., Effects of ozone and acidic fog on red spruce needle epicuticular wax production, chemical composition, cuticular membrane ultrastructure and needle wettability, 71
PETRINI, O. (see FISHER, P. J.), 299
PHILIPSON, J. J. (see OWENS, J. N.), 515
PICHÉ, Y. (see CHABOT, S.), 461
RAATIKAINEN, O. J., TAIPALE, H. T., PELTTARI, A. & LAPINJOKI, S. P., An electron microscope study of resin production and secretion by the glands of seedlings of *Betula pendula* Roth., 537
REILING, K. & DAVISON, A. W., Spatial variation in ozone resistance of British populations of *Plantago major* L., 699
REILLE, M., New pollen-analytical researches in Corsica: the problem of *Quercus ilex* L. and *Erica arborea* L., the origin of *Pinus halepensis* Miller forests, 359
REYNOLDS, P. H. S. (see GORDON, A. J.), 35
RIECHERS, G. H. (see BEYERS, J. L.), 81
ROBERTS, P. C. (see OUGHAM, H. J.), 261
ROBINSON, A. D. (see SANDERS, G. E.), 63
ROBSON, M. J. (see CHAPMAN, D. F.), 53
RUIZ, M. C. (see JAFFE, K.), 733
SANDERS, G. E., ROBINSON, A. D., GEISSLER, P. A. & COLLS, J. J., Yield stimulation of a commonly grown cultivar of *Phaseolus vulgaris* L. at near-ambient ozone concentrations, 63
SANZ, M. J., GRIES, C. & NASH, III, T. H., Dose–response relationships for SO_2 fumigations in the lichens *Evernia prunastri* (L.) Ach. and *Ramalina fraxinea* (L.) Ach., 313
SCHENONE, G., BOTTESCHI, G., FUMAGALLI, I. & MONTINARO, F., Effects of ambient air pollution in open-top chambers on bean (*Phaseolus vulgaris* L.). I. Effects on growth and yield, 689
SCHLEE, D., Sulphite-induced changes of sulphur metabolism in the lichen alga *Trebouxia* sp., 307
SCHÜEPP, H. (see FREY, B.), 447
SCHULZE, E.-D. (see FUßEDER, A.), 45
SEEL, W. E. (see HENDRY, G. A. F.), 273
SHIOMI, N., Content of carbohydrate and activities of fructosyltransferase and invertase in asparagus roots during the fructo-oligosaccharide- and fructo-polysaccharide-accumulating season, 421
SKIBA, U. (see WOODIN, S.), 635
SMITH, A. M. & DENYER, K., Tansley Review No. 39. Starch synthesis in developing pea embryos, 21
SMITH, S. E., DICKSON, S. & WALKER, N. A., Distribution of VA mycorrhizal entry points near the root apex: Is there an uninfectible zone at the root tip of leek or clover?, 469
SÖDERBÄCK, E. (see BERGMAN, B.), 379
SPRENT, J. I. (see NAISBITT, T.), 487
SYLVIA, D. M. (see O'KEEFE, D. M.), 651
TAIPALE, H. T. (see RAATIKAINEN, O. J.), 537
TALLANTIRE, P. A., The alder [*Alnus glutinosa* (L.) Gaertn.] problem in the British Isles: a third approach to its palaeohistory, 717

Temple, P. J. (see Beyers, J. L.), 81
Thomas, A. M. (see Ougham, H. J.), 261
Thomas, B. J. (see Gordon, A. J.), 35
——, (see Ougham, H. J.), 261
Thorpe, P. C. (see Hendry, G. A. F.), 273
Trappe, J. M. (see O'Dell, T. E.), 479
Vančura, V. (see Gryndler, M.), 455
Vejsadová, H. (see Gryndler, M.), 455
Verkleij, J. A. C. (see De Knecht, J. A.), 681
Volk, R. J. (see Jackson, W. A.), 439
Walker, N. A. (see Smith, S. E.), 469
Wartinger, A. (see Fußeder, A.), 45
Wellburn, A. R. (see Evans, E. H.), 501
Wheeler, A. J., Vegetational succession, acidification and allogenic events as recorded in Flandrian peat deposits from an isolated Fenland embayment, 745
Williamson, B. (see Goodman, B. A.), 529
Woodin, S., Graham, B., Killick, A., Skiba, U. & Cresser, M., Nutrient limitation of the long term response of heather [*Calluna vulgaris* (L.) Hull] of CO_2 enrichment, 635
Woodward, F. I., Tansley Review No. 41. Predicting plant responses to global environmental change, 239

Subject Index

Abscisic acid, 45
Acid fog, 71
Acid rain, 91
Acidification, 745
Agave deserti, 643
Ageing, 141, 153, 159
Agrostis capillaris, 507
Agrostis stolonifera, 339
Air pollution, 81, 501, 689
Allogenic, 745
Almus glutinosa, 717
Ammonium uptake, 439
Angiosperm tree leaf litter, 97, 111, 127
Ants, 733
Apical meristems, 515
Arctic plants, 179
Arnica montana, 507
Ascomycetes, 299
Ascorbic acid, 273
Asparagus officinalis, 421
Bacteria, 299
Betula lenta (black birch), 617
Betula pendula (birch), 537
Biological control, 299
Brassica napus (rape), 675
British Isles, 717
Burning, 757
Buthionine sulphoximine, 681
Cadmium tolerance, 681
Calcium, 111
Calluna vulgaris (heather), 635
Carbon accumulation, 153
Carbon allocation, 53
Carbon dioxide, 461
Carbon isotope discrimination, 349
Carnivorous plants, 733
Casuarina, 757
Cell division, 1
Chamaecrista, 487
Chlorophyll fluorescence, 321
Chlorophylls, 313
Citric acid, 349, 675
Clonal growth, 339
Clusiaceae, 349
CO_2, 239, 635
CO_2 exchange, 321
CO_2 uptake, 643
Competition, 239, 507
Coning, 515
Corsica, 359
Cortical microtubules, 165
Critical levels of O_3, 699
Cucumis sativus, 281
Cyanobacteria, 379, 571
C–N metabolism, 433
Cytokinins, 45
Cytoskeleton, 165
Decomposition rates, 127
Desiccation sensitivity, 273
Deuteromycetes, 299
Development, 1, 211
Distribution, 469
DNA fingerprinting, 289
DNA replication, 1
Dose–response relationships, 313
Drought, 515, 661, 669
Drought stress, 81
Dry deposition, 329
Early and middle postglacial, 717
Eastern North America, 187
Ecology, 299
Ecosystems, 239
Ectomycorrhiza, 141, 153, 159, 661, 669
Ectomycorrhizal fungi, 289
Embryo, 21
Endophytes, 299
Entry points, 469
Environmental gradient, 553
Enzymes, 21
Epicuticular wax, 71
EPR spectroscopy, 529
Evolution, 699
External hyphae, 651
Feeding behaviour, 733
Ferocactus acanthodes, 643
FFT, 421
Flandrian, 745
Flavonoid, 211, 461
Flinders Island, 757
Forest decline, 501
Free radicals, 273
Frost-heaving, 179
Fructan, 253, 421
Fructosyl transferase, 253
Fungal community changes, 97
Fungal endophytes, 479
Fungal respiration, 127
Gas exchange, 627
Genetic differentiation, 553
Gibberellin, 515
Gigaspora margarita, 461
Gland, 379, 537
Glechoma hederacea (ground ivy), 545
Glomus, 455
Glomus intraradices, 281
Glutathione, 681
Greenhouse effect, 239
Growth analysis, 261
Growth dynamics, 433
Growth parameters, 63
Guayana Highlands, 733
Gunnera, 379
Heat, 515
Heathland, 507
Heliamphora, 733
Heterogeneity, 617
Holocene, 359, 757
Human impact, 359
Hydroponic culture, 455
Hyphal N-transport, 281
Immunogold labelling, 35
In vitro assay, 709
Inbreeding, 553
Infectibility, 469
Infection, 379
Intergeneric incompatibility, 709
Internode, 545
Ipomoea batatas (sweet potato), 651
Isochrysis galbana, 433
Laccaria, 289
Leaf conductance, 45, 329, 493
Leaf development, 261
Lectin, 211
Legume nodulation, 211
Lichen, 307, 313
Life forms, 179
Light-activated plant defence, 401
Light-harvesting chlorophyll protein, 501
Liquid medium, 709
Liverworts, 165
Lolium temulentum, 253, 261
Lupinus, 479
Magnesium, 111, 455
Maize, 455

Malic acid, 675
Marchantia paleacea, 165
Meristems, 1
Mineral nutrition, 661, 669
Model, 329
Modelling, 469
Mutant, 261
Mycorrhiza, 239, 479, 643, 651
N transfer, 447
N_2 fixation, 571
NH_3, 507
Nitrate uptake, 439
Nitric acid vapour, 329
Nitrogen, 627
Nitrogen fixation, 379
Nitrogen selectivity, 617
Nitrogen suppression, 439
Nitrogen-15, 281, 447
NMR micro-imaging, 529
Nodulation, 611
Nodule, 35, 487, 571
Nostoc, 379
Nuclear ribosomal DNA, 553
Nutrient deficiency, 635
Nutrient response, 339
Nutrients, 239, 507
O_2, 571
Oceanic islands, 187
Oligosaccharide, 253
Open-top chambers, 63, 689
Opuntia ficus-indica, 643
Organic acids, 651
Ozone, 63, 71, 81, 91, 321, 493, 689
Ozone resistance, 699
P inflow, 651
Palaeoecology, 717
Paramagnetic ions, 529
Paxillus involutus, 141
Periodicity, 545
Persistent infection threads, 487
Phaseolus vulgaris (bean), 63, 689
Phosphate absorption, 159
Phosphate Transfer, 159
Photosensitizers, 401
Photosynthesis, 53, 91, 239, 313, 349, 661, 669
Photosynthetic activity, 433
Photosynthetic capacity, 81
Phototoxic phytochemicals, 401
Phototoxins, 401
Physiological integration, 339
Phytochelatins, 681
Phytoplankton, 433
Picea abies (Norway spruce), 501
Picea rubens (red spruce), 71
Picea sitchensis, 141, 515
Pigments, 433
Pinus elliottii, 91
Pinus ponderosa (ponderosa pine), 81
Pinus taeda (loblolly pine), 627
Pisum sativum, 21
Pitcher plants, 733
Plantago major, 699
Plasticity, 617
Plastid abnormalities, 261
Plastochron index, 545
Pollen analysis, 359, 745
Pollen dispersal, 187
Pollen representation, 187
Pollution, 321
Polymerase chain reaction, 289
Polysaccharide, 253
Populations, 239
Potassium, 111
Potato, 493
Preprophase band, 165
Protein kinases, 1
Prunus dulcis, 45
Quercus robur, 273
Ramets, 339
Raspberry, 529
Reaction centres, 501
Recalcitrant seeds, 273
Relaxation effects, 529
Resin, 537
Respiration, 313, 571
Rhizobium, 211, 487
Rhizobium leguminosarum, 611
Ribosomal DNA, 289
Rock phosphate mobilization, 675
Root breaking strain, 179
Root breaking stress, 179
Root exudation, 675
Root growth, 469
Root hydraulic conductivity, 643
Root resilience, 179
Root tensile strength, 179
Rubisco, 493
Salicornia, 553
Saprotrophic fungi, 97, 127
Season, 91
Secale cereale, 709
Seed development, 21
Senescence, 53
Silene vulgaris, 681
SO_2, 507
Soil drought, 45
Soybean (*Glycine max*), 35
SST, 421
Starch synthesis, 21
Stolon, 53, 545
Stomatal conductance, 91
Stress interactions, 627
Structure-activity relationship, 461
Succession, 745
Sucrose, 253
Sucrose synthase, 35
Sulphate, 111
Sulphite, 307
Sulphur dioxide, 97, 111, 127, 313
Sulphur metabolism, 307
Sulphydryl groups, 493
Supernodulation, 611
Superoxide dismutase, 273
Symbiosis, 379
Symbiotic efficiency, 611
Temperature, 239
Tepuy, 733
Translocation, 153
Trebouxia, 307
Trifolium alexandrinum (berseem), 447
Tripartite associations, 479
Triterpenoids, 537
Triticum aestivum (wheat), 321, 709
Tylospora fibrillosa, 141
Ultrastructure, 537
Upland heath, 635
VA mycorrhiza, 281, 447, 455, 469
Vegetation, 359
Vesicular–arbuscular mycorrhizal fungi, 461
Viola canina, 507
Water relations, 661, 669
Water stress, 627
Water use efficiency, 321
Wettability, 71
White clover (*Trifolium repens*), 53
Xylem sap, 45
Yield, 689
Yield stimulation, 63
Zea mays, 439, 447